Simulation and Educational Technology for Foreign Language Learning

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Introduction

Although all teachers of English as Foreign Language (EFL) attempt to help learners increase their knowledge and facilitate practice of the language in order to get closer to a level of fluency, there are conflicting opinions on what the most effective methods are to accomplish this. However, most EFL teachers will agree that one of the biggest barriers to learning a foreign language is that it is foreign. Learning the subject matter may then seem understandably meaningless to those who have no plans to use it at the present time, or even in the near future, and may seem too artificial a practice even to those who do. In order to bring more sense and relevancy to learning, teachers would have to implement methods that seem immediate, real and personally meaningful and motivating for their learners. In creating a learning environment that is going to seem relevant to the learner, especially when the information is about a distant matter, reliance should be placed on the *simulability* of the learning that is taking place.

Simulation and Educational Technology

Although educational technology is usually associated with that which is electrical or digital, in a broader definition, educational technology is any supply, instrument or tool that aids the learning process. A product that enables or enhances the process of learning may be considered an artifact of educational technology, be it chalk and slate, pencil and paper, a textbook or a computer. Educational technology supports the flow of thought and the retainment of ideas (memory and memes), and may allow the learner to simulate situations beyond

Keywords: EFL/ESL, CALL, Simulation, Educational Technology, Second Life

their present time and place.

More than educational technology, the learning process depends on the concept of simulation. Although contemporary associations with simulation are synonymous with digital technology and computations (Kuppers/Lenhard/Shinn, 2006: 3-4), *The Oxford English Dictionary* defines *simulation* as: "The action or practice of simulating, with intent to deceive; false pretence, deceitful profession." There is then perhaps, no practice more deceitful than that of the teacher who attempts to guide his or her students on false pretences and constant deception to legitimize what is being learned. A few examples of simulation philosophized by Jean Baudrillard in his book, *Simulacra and Simulation,* are: images, imagination, imitation, representations, duplications, parody, algebra, references and maps. Simulacra and/or simulation can be found in all disciplines, from math to art, from science to religion. Simulation, then, is much more than present-day notions of the physical use or operation of machine simulators for practical training or war-based gaming. Simulation is the very process of learning through repetition or through the use of representations that exist outside of the learning environment. Simulations are not limited to the use of computers or hypermedia.

Simulations are the foundation of knowledge-building and training in general. Simulations do not rely solely on educational technology, such as machine simulators, but they do require exercising the imagination and having belief in a situation beyond the learner's present knowledge. Simulations may be as basic as practical activities that imitate ideas or events that take place away from the learning environment. A simulation may be as basic as "a representation, a sign, a copy: an image without the substance or quality of the original" (Riordan: 5). Without educational simulacra, the learning process would be severely hindered because our memory and imagination need to be primed and rely on educational simulacra such as notes or diagrams.

Digital simulations are currently the most evolved form of simulation, or hypersimulation, which includes 3D simulations. Such simulations are hyperreal, giving way for audio and visual learning that is responsive and dependent on the actions of its participants. Incorporating a digital learning system, application, software or online game into the artificial learning environment can make for more natural acquisition of the language because it is multi-sensory and

interactive. The greater the simulation, the greater the capacity for learning.

Popular Media-induced Simulations

Learning culture is an integral part of learning language. Language and culture cannot be separated, especially in the realm of a practical whole language approach. Learners may learn about culture by reading alone or through a passive lecture, but giving students the opportunity to interact directly within that culture puts an aspect of authentic practice into their learning. Cultural simulations are a necessary part of EFL learning, but how can culture be effectively brought into an EFL setting? A foreign teacher alone is not enough, especially with larger classes. The solution must lie with the capabilities of media systems that afford learners with direct and personal connection to the cultural information. Where television may bring a satisfactory audio-visual element to learning, the medium itself is not interactive and remains a passive medium without supportive instruction. A higher level of simulation requires interactivity or learner participation in order to develop. Such simulations invite the learner to collaboratively control the mode of action and communication. This is hypersimulation, which "threatens the difference between the 'true' and the 'false,' the 'real' and the 'imaginary'" (Baudrillard, 1981: 3). From wire, machineware and artificial light, real use of language and interplay in a foreign culture can evolve.

In the classic novel *Simulacra,* written by Philip K. Dick (1964), an entire nation of people live in a society dominated by mass media and the presence of simulacra in every aspect of their lives, and are even led by a President who is not real, but a simulated character. Although a work of science fiction, Dick's futuristic story reflects many aspects of society, from media control to replications of objects and products, to online personas, which we rely on for our social realities.

In *Simulacrum,* the poet Timothy Riordan expresses our temporal relationship with the passing of real time, compared with the permanence and omnipresence of time in media simulations:

> how quickly
> things disappear

(thoughts for instance)

an entire nation
living inside
the television
and now the internet (Riordan, 2011: 9)

Media such as television and the Internet have consumed us to the point where Riodan believes we are permanently living within simulation. Although a criticism of society, Riordan's expression of the simulacrum of life states how dependent society is on media for information and communication. Whether we believe this is a positive or negative attribute of the way we live, it is unrealistic to run a classroom in a way that is isolated or unreflective of the way contemporary society communicates on a daily basis. In his book, *Simulation and Simulacra,* Jean Baurilliard (1981) philosophizes on the process of simulation. He describes media as a system that metaphorically begins as a desert that can suddenly implode with social meaning that is infinite, fuelled not only by necessary electricity, but also by the users that interact within the system (161) and social networks. This describes both machine and people as the collaborators of simulation.

Simulation Games and Virtual Worlds

Computer games functioning in the target language are an example of authentic culture (Gane, 2006: 283), the culture of the creators as well as the culture of the participants. Playing or interacting in these games allows learners to experience both the target language and the cultural forms that appear simultaneously with it. Cultural understanding such as the look of characters and their settings, as well as the cultural activity such as character lifestyle, gestures and clothing are a few of the cultural concepts that can be learned from participating in game simulations. Many simulation games and virtual worlds are full of cultural information such as the way people (characters and avatars) interact and the type of objects and products they use. Games are a medium for cultural exchange or the merging of cultures, and are an example of a "powerful dimension of global culture" (Gane, 2006: 283).

Within the situation of a simulation, learners may be exposed to and generate language naturally, instead of being taught language items in isolation or analytically. Rather than attempting to learn the foreign language by analyzing isolated language items or segments, participating in a simulated approach will allow learners to experience authentic communication while affording them with hints such as language cues (text or signs), animation or images (relevant objects, background settings) and cultural scenes/situations. Learners may effectively learn how to negotiate meaning (Garcia-Carbonell/Rising/Wattsi, 2001: 486) using interactive digital situations.

Virtual worlds are an exciting and therefore motivating way for learners to experience foreign language and culture. *The Sims* games series and the online site *Second Life* are two examples of virtual worlds in which learners can engage in the authentic target language. Computer-mediated simulations such as these will allow users to delve deeper into their learning simulations and retain language items through interactive learning with authentic language used regularly by first language speakers.

Sims and *Second* Life

The Sims are a series of single and multiple player video games where learners/participants can interact within a simulated world by controlling an avatar that can communicate and perform actions. The characters and settings in *The Sims* worlds are hyperreal with each game involving a multitude of characters and with settings that imitate different cities and places. *The Sims* characters and personal avatars can virtually mimic different activities, occupations and lifestyles. Unlike most popular video games, *The Sims* does not have a particular end goal, but instead involves the practice of social strategies and leisures in life such as shopping, building a home and dating. In *The Sims 2: University,* learners/participants simulate typical university life with activities such as studying/majoring in real school subjects, dealing with college finances, and socializing at parties.

Second Life is a virtual world where all learners/participants are real people from around the world who are simultaneously online, represented by avatars. In the multi-user online environment of *Second Life,* learners can communicate with each other by text or speech. Conversation or a meeting may be scheduled to

happen in a designated time and place within the system for groups of learners. Alternatively, learners may wish to explore areas within *Second Life* on their own, or with a partner, and may even want to try speaking with strangers in the virtual environment while they remain safe in their classroom or computer lab. If teachers use their creativity in manipulating how the site can be used for EFL and foreign culture acquisition, learners will be able to improve vocabulary and sentence structure while being exposed to visual situations that are conducive to the language being expressed. Through speaking and written production on the site, learners will also be simultaneously exercising "higher mental activities (which) are developed through social interaction involving the use of tools" (Petersen, 2010: 74).

Both *The Sims Series* and *Second Life* are examples of simulated environments in which participants can improve their language skills and perhaps even their social skills since simulated interaction with real participants and/or real-to-life characters, is required. Since the visuals and capabilities of these sites are constantly changing and being constructed, learners are encouraged to freely experiment with their own creative ideas and contribute to the construction of the shared virtual world. Participants may not only make alterations to their own avatars, such as changing hairstyles and clothes, but may also start up their own social group, or run a business in the target language. This requires collaboration with the available functions within the site and with other participants. These tasks are a model of how "language acquisition is facilitated by participation in collaborative dialogue involving co-construction of the target language" (Petersen, 2010: 74). While attempting to acquire and improve on their language skills, students are also improving on their computer skills and digital literacy in the process. The use of avatars to represent themselves may also act as a method of anxiety-relief of having to communicate face to face in a language that learners are not yet comfortable in. Learner affinity with a personalized avatar may also help make them feel motivated and responsible over how they act and develop both online and off.

Simulated games are more engaging than traditional classroom learning because they are a personalized method of learning, supposing that each learner has his or her own computer. When learners are working individually (but also interactively), they are able to work at their pace and proficiency level— this

may not be possible in a regular classroom where a high number of students may also mean a slower pace or greater downtime (White and Gillard, 2011: 2). It is possible that some learners may find it difficult to focus on the simulation and the language simultaneously. However, this could be resolved by allowing learners to work in pairs, with one participating actively and the other observing the action and language information that accompanies it. The cognitive load is reduced on the observing learner, and he or she may be better able to retain the new language information and cultural experiences played out by their partner (deHaan/Reed/Kuwada, 2010: 84). Because simulations are multi-sensory, there may be significant mental effort required, however, this is relevant training for real life situations, which are often fast-paced and never single-sensory.

Educational Technology and The Role of the Teacher

Perhaps some teachers are hesitant to use simulated games because of the association with playing instead of productive studying. For the concept of serious gaming is to be considered, the concept of teacher-centred learning must first be reconsidered. Student creativity, a constructive approach to learning as well as co-operative learning have to be encouraged in order for student-centred simulations to be effective. The use of CALL systems must also continue to be monitored by an active teacher so that serious play and evaluation can be ensured.

When the learning process becomes more student-controlled, the teacher will no longer need to be the centre focus of the learning. What then should the role of the teacher be in a CALL classroom or a learning environment where students must take responsibility of their learning tasks? Or should teachers be threatened by the ever-growing presence of technology in schools? Perhaps the answer to this question is best answered by British author and inventor, Arthur C. Clark: "Any teacher that can be replaced by a machine should be" (1980). Whether as facilitators, instructors or learner-support, the role of the teacher in a CALL classroom is no less important than in a traditional classroom, but that role does have to be reconsidered.

Within TEFL communities, there has always been disagreement and skepticism towards new language learning methods, especially those that challenge traditional teaching or involve the use of digital equipment. To keep up with so-

cietal changes, teachers must learn to trust technology that they cannot completely control, explore the possibilities of it, and accept that efforts in "declassifying the classroom," (Garcia-Carbonell/Rising/Wattsi, 2001: 485) are inevitable if we really want to try to empower our learners.

Conclusion

Until learners are able to experience the target culture and language in a real-life setting, successful EFL learning will depend on learning simulations, which have always been heightened with the use of educational technology. Effective EFL learning cannot happen without simulations and the use of computer or digital technology is a highly effective way to allow students to experience realistic situations while remaining in their campus environment. In considering what the most effective methods are for learning EFL, we must consider what is both effective and affective for the learner. Serious games and playing in virtual worlds are methods that can help students understand foreign cultures and retain language information such as vocabulary and sentence structure. Communicating in simulated environments may also reduce anxiety levels and improve motivation compared to simple face-to-face communication in the classroom with the teacher and/or peers.

Simulation is an inescapable part of the learning process. It always was, even before it was ever defined. Educational technology merely allows us to fall deeper into our learning simulations, and with more ease of learning, there is possibly more enjoyment and success in it. As teachers, we have to teach our students to see beyond what their eyes can immediately envision at the present time, to see beyond chalk and slate, to see beyond paper and ink and to see beyond machine and wires. The more we create, and the more we encourage our students to re-create and re-imagine, the greater our simulations can become.

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Abstract

Simulation is a necessity for training, practice and learning. It may be in the form of a learner repeating a single skill numerous times in order to reach a desired level of perfection (low-level simulation), or it may be in the form of a multi-sensory simulation that requires critical thinking and creativity on the part of the participant (high-level simulation). Regardless of the depth of the simulation, the purpose is to involve the learner in a practice that will help them to act accordingly in a real life situation or a situation that is relevant to the purpose of learning, beyond the place where it is being practiced. Simulation requires both the imagination and the belief that what is being practiced is useful or meaningful.

Educational technology may be the main indicator to the level and quality of a simulation. Educational technology may be considered any tools used by the teacher and student, such as a textbook or a CD player, or a personal computer or computing device used to retrieve and share information. More advanced forms of educational technology are more likely to aid the realization that the targets of learning have a purpose or intentions that are both important and interesting for the learner to acquire. If this can be realized, motivation can also be enhanced, supporting an upward cycle of positive learning to take place.

As one of the main challenges of teaching a foreign language is that the content of the subject may seem too far-reaching and even irrelevant to the learner, this paper will discuss how improving the *simulability* of learning may make the subject matter (foreign language and foreign culture) appear immediately relevant as well as personally meaningful to the learner. This discussion will be followed by analysis of two multi-player, multi-dimensional games: *SIMS* and *Second Life,* which afford the practice of language items, attainment of cultural

knowledge as well as the construction of self.